

Title (en)  
**MAGNETRON CATHODE SPUTTERING SYSTEM**

Publication  
**EP 0095211 B1 19870909 (EN)**

Application  
**EP 83200697 A 19830517**

Priority  
NL 8202092 A 19820521

Abstract (en)  
[origin: EP0095211A2] Such a system comprises in an envelope 1 a flat cathode 2 from the material to be sputtered and a substantially circular anode situated coaxially with respect to said cathode. Behind the cathode, magnetic means 13 are provided to generate at least one closed tunnel of field lines 14 over a part of the cathode surface (a so-called electron trap). Between the anode 3 and the edge 8 of the cathode is present according to the invention a coaxial, substantially cylindrical auxiliary electrode 15. From the centre of the cathode a rod-shaped auxiliary electrode 16 moreover extends axially. Said auxiliary electrodes 15 and 16 modify the electric field in such a manner that the electrons which are not captured in the tunnel of magnetic field lines are directed substantially towards the anode 3. The distance from the rod-shaped electrode 16 to the substrate 7 must be chosen to be comparatively small. By using the invention the substrate is less heated and not so much damaged by electron bombardment.

IPC 1-7  
**H01J 37/34**

IPC 8 full level  
**C23C 14/35** (2006.01); **C23C 14/36** (2006.01); **H01J 37/34** (2006.01)

CPC (source: EP US)  
**H01J 37/3408** (2013.01 - EP US)

Cited by  
EP0162643A1; DE4202211A1; DE19947932C1; DE19614595A1; US5863399A; EP0316523A3; GB2143255A; ES2374775A1; EP0737999A1; NL1000139C2; US5868914A; US4606806A; DE19614599A1; US5997697A; DE19639240C2; CH691643A5; NL1004217C2; US6540883B1

Designated contracting state (EPC)  
AT DE FR GB SE

DOCDB simple family (publication)  
**EP 0095211 A2 19831130; EP 0095211 A3 19840509; EP 0095211 B1 19870909**; AT E29623 T1 19870915; AU 1468283 A 19831124; AU 557135 B2 19861204; CA 1193998 A 19850924; DE 3373590 D1 19871015; JP H0227433 B2 19900618; JP S58210167 A 19831207; NL 8202092 A 19831216; US 4427524 A 19840124

DOCDB simple family (application)  
**EP 83200697 A 19830517**; AT 83200697 T 19830517; AU 1468283 A 19830519; CA 428547 A 19830519; DE 3373590 T 19830517; JP 8782283 A 19830520; NL 8202092 A 19820521; US 49210783 A 19830506